Abstract

A method of and apparatus for passively determining agile-frequency-emitter location and computer-readable medium bearing instructions therefor. Unless a specified accuracy threshold is met or exceeded, phase, frequency, and baseline position are measured during a single receiver dwell and processed. An array of gains and phase difference ambiguity integers for all phase difference measurements are computed. An emitter DOA unit vector or COS(AOA) is estimated and an LBI phase difference is predicted. If the rank of the set of baseline-frequency product differences is greater than 1, each DOA unit vector is projected and scaled by the measured frequency corresponding to the baseline measurement. Otherwise, if the rank is 1, the product of the COS(AOA) and baseline length is formed and scaled by the measured frequency. The corresponding ambiguous measured phase difference, resolved and differenced, is used to estimate the resulting integer value and the resolved phase change and emitter range is estimated from the angle change.